SUPPLEMENT.

The Mining Journal,

RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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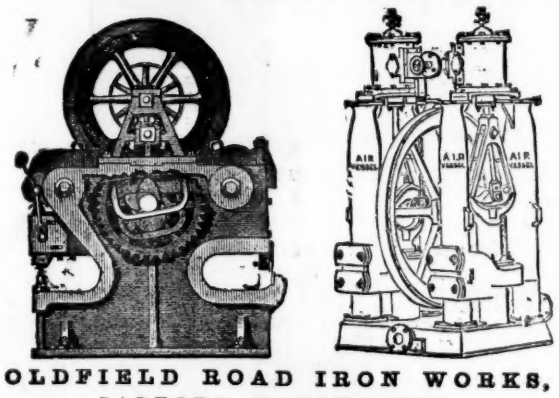

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PARIS, BRONZE MEDAL, 1867. ORDER OF THE CROWN OF PRUSSIA. FALMOUTH, SILVER MEDAL, 1867

A DIPLOMA—HIGHEST OF ALL AWARDS—given by the Geographical Congress, Paris, 1875—M. Favre, Contractor, having exhibited the McKean Drill alone as the MODEL BORING MACHINE for the ST. GOTHARD TUNNEL.

SILVER MEDAL of the Highland and West of Scotland Agricultural Society, 1875—HIGHEST AWARD.

At the south end of the St. Gothard Tunnel, where

THE McKEAN ROCK DRILLS

Are exclusively used, the advance made during eight consecutive weeks, ending February 7, was 24·90, 27·60, 24·80, 26·10, 28·30, 27·10, 28·40, 28·70 metres. Total advance of south heading during January was **121·30 metres, or 133 yards.**

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The GREAT WESTERN RAILWAY has adopted these Machines for the SEVERN TUNNEL; the LONDON AND NORTH-WESTERN RAILWAY for the FESTINIOG TUNNEL: and the BRITISH GOVERNMENT for several Public Works. A considerable number of Mining Companies are now using them. Shafts and Galleries are driven at from three to six times the speed of hand labour, according to the size and number of machines employed, and with important saving in cost. The ratio of advantage over hand labour is greatest where the rock is hardest.

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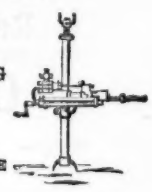

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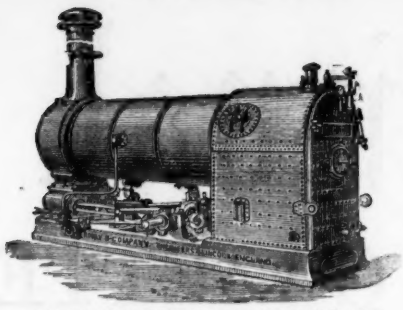

THE PATENT ROBEY FIXED ENGINE AND LOCOMOTIVE BOILER COMBINED
4 to 50-horse power.

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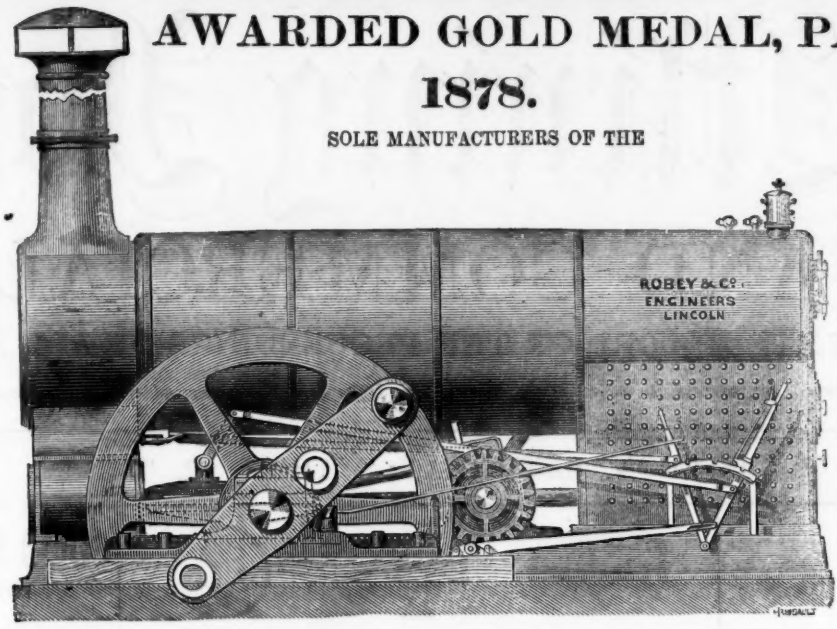

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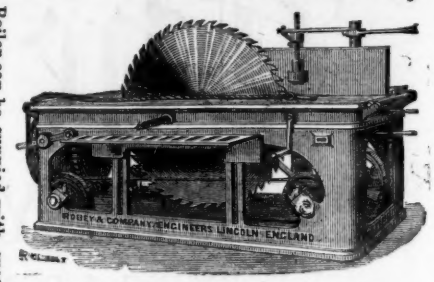

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OF ALL SIZES, FROM 4 TO 50-HORSE POWER.

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SMALL FIRST COST. SAVING OF TIME AND EXPENSE IN ERECTING. EASE, SAFETY, AND ECONOMY IN WORKING. GREAT SAVING IN FUEL.

This New Engine is free from all the objections that can be urged against using the Semi-Portable Engine for permanent work, because it possesses the rigidity and durability of the Horizontal Engine, and at the same time retains the advantages of the Semi-Portable in saving time and expense in fixing.

PATENT VERTICAL ENGINES,
1½ to 16 horse power.

THE PATENT ROBEY FIXED ENGINE

(Also above illustrated) is admirably adapted for driving Rolling Mills, Saw Mills, Brick Machinery, Pumping Machinery, and all descriptions of Fixed Machinery.

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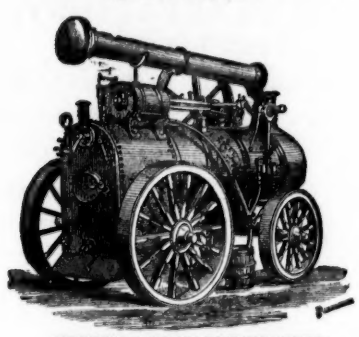

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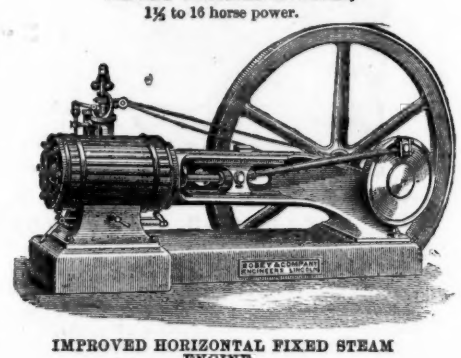

IMPROVED HORIZONTAL FIXED STEAM ENGINE.
4 to 60-horse power.

References can be given to upwards of 5300 ENGINES of all sizes, from 2 to 50-horse power.

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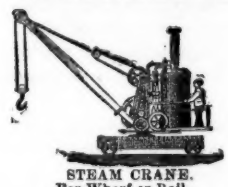
STATIONARY ENGINE.
No building required.

HOISTING ENGINE.
With or without Jib.



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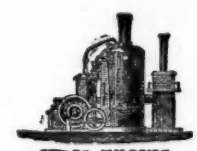
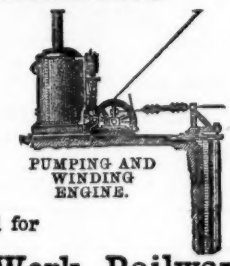


SHIPS ENGINE AND DISTILLER.



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The ORIGINAL combined Vertical Engines and Boilers, introduced by Mr. CHAPLIN in 1855, specially designed and adapted for

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Parties are cautioned against using or purchasing Imitations or Infringements of these Patent Manufactures.

BELTING versus GEARING.

Of late years a great change has been gradually taking place in the Mills and Manufactories of Lancashire and Yorkshire by the substitution, betwixt the Engines and Shafting, of Belting for Gearing, thus doing away with all noise and vibration, as well as wonderfully reducing the cost of repairs; and so manifest are its advantages, that driving by Gearing will soon be the exception.

As a still greater improvement, we beg to submit our Wrought-iron Drums (Rodgers's Patent), of which we are the Sole Makers. Their special merits may be briefly stated as follows:—

1.—These drums absorb less of the power of the engine in friction than any other mode of driving.

2.—Leather belts on these drums will drive considerably more than cast-iron ones, and the belts last much longer.

3.—These drums are not only considerably lighter in the larger sizes, but also infinitely stronger than cast-iron ones.

4.—In case of fire they suffer little damage. We have repaired many hundreds that have been in very serious fires, generally at about 25 per cent. on first cost.

5.—For MAIN DRIVING purposes they are invaluable, especially in case of a new mill, as they do not require such substantial and heavy building construction as is necessary in ordinary cases to withstand the constant vibration of gearing.

6.—The wrought-iron drums and belts are more easily and quickly fixed than gearing.

7.—Greater economy in steam power, as it requires less power to transmit the same effective force with belts than it does with gearing.

8.—Very much greater economy in subsequent repairs, as compared with gearing.

9.—The power is transmitted evenly, faithfully, and noiselessly, and without the vibration arising from defective or worn gearing.

10.—They require no cases for transport or shipment.

In support of the foregoing statements, we may say we have already supplied upwards of 20,000 of these Drums for use in Great Britain and Ireland, and have also exported them largely throughout the Continent of Europe, India, and the British Colonies.

These Drums being made by special machinery, can be made any diameter up to 24 feet, and also any width up to 4 feet, and to fit any size of shaft.

FOR PRICES OF RODGERS' PATENT WROUGHT-IRON DRUMS, APPLY TO

HUDSWELL, CLARKE, AND RODGERS, RAILWAY FOUNDRY, LEEDS, ENGLAND.

SOLE AGENTS FOR LANCASHIRE, CHESHIRE, AND NORTH WALES:—WELCH AND SCOTT, MARKET-STREET, MANCHESTER.

Original Correspondence.

LEES MOOR TUNNEL, YORKSHIRE.

SIR,—It was my privilege about a week ago to see Col. Beaumont's boring machines at work in the above tunnel. Without going into details I may say the size of the tunnel is about 11 ft. by 9 ft. The rock is known as the Oolites, with bands of hard shale. Four powerful machines are employed, and a perfect system of working is observed throughout. During the week which terminated the day before my visit no less than 27¾ yards were driven, and this speed will probably be maintained, if not exceeded. These figures need no comment. J. B.

COLLIERY EXPLOSIONS.

SIR,—This question is so interesting and momentous that I venture to send you a theory of my own for public discussion. It has frequently been observed that the flash of a "shot" has fired gas not free before the flash. How this can be seems a difficulty to understand, but perhaps as an artillery officer I may put thinkers on the right track. I have observed that the action of recoil as a gun is fired may be seen before the flash is seen—there is, of course, the length of the bore of the gun to be travelled, so also there is the depth of the "shot" hole. Now, gunpowder gas when set free exerts a pressure per square inch of 15 to 30 tons, and travels with proportionate velocity.

The law of gases, according to Marriotte, is that their volume is inversely to the pressure—half the pressure doubles the volume, &c. We do not know what pressure gas in coal may be under, but to show my line of argument let me suggest 1 ton to the square inch; would it not thus expand 150 times—*i.e.*, to the pressure of air—the moment it was set free; and 1500 times if the pressure was 10 tons to the square inch; and 15,000 times when the pressure was 100 tons to the square inch. In the latter case the speed of expansion would be 3 or 4 times the speed of the powder flash, and so the gas would overtake the flash. Now put the speed of a flash from gunpowder at the initial velocity of a gunshot or a little more—say, 1800 ft. per second, or at the rate of 20 miles a minute—then the expansion of gas at enormous pressure would be at the rate of 60 to 80 miles a minute. Great as as such speeds are they seem in Nature to be attainable.

For instance, the earth travels round at a speed exceeding 33 miles a minute, and round the sun at more than 1000 miles a minute. Such speeds, then, are in the economy of Nature, and being so, what argument is there for disproving my theory that the sudden expansion of gas in coal mines *may at times* exceed in velocity the speed of a gunpowder flash. I submit this for fair consideration, as unless I am seriously in error it will account for much not yet, I believe, hitherto explained. J. D. SHAKESPEAR, Colonel,

Baron's Court, Fulham, March 19. F.G.S., Assoc. M. Inst. C.E.

P.S.—Another possible source of explosion is a rusty gauze, which I find passes flame when a clean one would not do so.

PREVENTION OF EXPLOSIONS IN COLLIERIES.

SIR,—On Aug. 20, 1878, I wrote to the Home Office on the subject of my discovery for the Prevention of Explosions in Collieries, which Mr. Cross then suggested should be placed before the public in the usual way by advertisements. Taking stronger views I wrote the Queen's Most Excellent Majesty, receiving an acknowledgment, and commanding me in the name of the Privy Purse to put my discovery in the hands of the Board of Trade, to which I at once wrote, on Sept. 23, receiving an acknowledgment from Viscount Sandon, informing me the regulations with respect to mines are under the Home Office. I wrote to the Home Office again on Oct. 7, and on the 10th received a formal acknowledgment—since which, owing to neuralgic pains, I have been unable to move in the matter.

My discovery for the prevention of explosions in collieries is—The three conditions necessary to the formation in Nature of carbonic acid gas, and equally so of gas causing explosions in collieries, are heat, moisture, and darkness; and, again, the "gas" causing explosions in collieries is decomposed in the light which expels the oxygen and fixes the carbon. Suddenly introducing a light into a coal mine surcharged with "gas" will cause an immediate explosion; but no explosion could occur in collieries at all times, and continuously lighted with gas, as by that means oxygen would be gradually expelled, and the carbon fixed as to totally prevent explosions, or cause them to be so small as to have no disastrous consequences. The boon to the colliers would be great, and the excess of moisture prevented by a fixed regulated temperature. Choke-damp will put out any light introduced without any explosion, but carbonic acid gas being near any light or strongly heated surface coming between them the excess of hydrogen in the first, and oxygen in the latter, will cause an immediate and terrible explosion. This circumstance accounts also for the number of after explosions in coal mines.

My discovery, therefore, relates to collieries, being, at all times and continuously lighted with gas, to entirely prevent explosions, by gradually decomposing and preventing the accumulation of gas in quantity and formation of choke-damp entirely.

The recent explosions in the Prince of Wales, Rhodope, on Wednesday, at the Deep Drop Colliery, near Wakefield, with the immense sacrifice of life and property, demand that the law as to the management of collieries be changed.

No one can consider the present law correct, even on broad general principles, and as my discovery is of national importance, and as plain in principle as the discoveries of Sir Isaac Newton and others, I only seek the well-considered and dispassionate judgment of all.

By Government compelling colliery owners to act on my discovery they would not be put to such expense as to resolve to renounce their undertakings; quite the contrary, as if well managed the expenses would be less than at present.

The demand for immediate liquidation is, therefore, supported by some principle, and the deaths, distress, and sufferings which result from the principal explosions ever occurring from time to time, demand an immediate alteration of the present system.

The importance of the great interests involved will, I trust, be held a sufficient justification for the length of this communication.

Exchange Buildings, Manchester, March 15. C. R. SMITHIES.

ELECTRIC SIGNALLING IN MINES.

SIR,—Several correspondents of the Journal have at various times stated that it would be very desirable if a ready means of signalling in mines could be discovered, as it might diminish the number of accidents and deaths; but most of the suggestions have been too costly, because a separate signalling apparatus has been demanded for adopting them. This is not the case with the invention of Mr. Angelo Cattaneo, of Pavia, for he uses electricity, and nothing but the rails as conductors. The principle on which his invention is based consists in using the rails upon which the tram travels as an electric conductor, and in insulating the right-hand wheels of the carriages from the left-hand wheels thereof as an essential and indispensable condition, as the current has to travel by one rail and return by the other. This object may be obtained by reason of the great resistance of the soil to the transmission of the electricity from one rail to the other, and by the weak tension occurring with regard to the shortness of the circuit and the large section of the conductors. It is, however, desirable in practice to coat the outside of the rails, except the surface thereof, with tar or other cohesive matter; it will be useful also to lay gravel and small particles of earth between the rails of the double line. Where the rails touch their supports only and not the soil their insulation is far superior to that required for the purposes of this invention.

In carrying the said invention into practice the line is divided into sections comprising the distance between two stations. The rails all along that section are joined together by means of screwed iron bands, which have been previously tinned on the side of contact between the band and rail; or in order to avoid tinning they are united by means of short copper wire of convenient size, slightly curved and soldered together in holes made at their ends nearest the joints. Mr. Cattaneo regards his invention as chiefly applicable to railways, but it will be evident that in mines it will be invaluable, as the exact position of the trains on self-acting inclines and such like places can be readily and constantly ascertained. Should any reader of the Journal require further information on the subject the inventor will be glad, I am sure, to supply it. L. W.

Paris, March 14.

REDUCING SULPHIDE ORES WITHOUT FUEL.

SIR,—As "Miner" still continues to write anonymously I am compelled to trouble you with the enclosed invitation, which I shall be obliged by your kindly forwarding to him. If he desires information he will then be enabled to obtain it by being present at some further experiments, which are to take place at Messrs. John Brown and Co.'s Atlas Works, Sheffield. April 30 next has been fixed by the Society of Arts for a further discussion of my process, at which Prof. Roscoe, F.R.S., has again kindly promised to preside. I propose to lay before that meeting full details of quantitative experiments, and of the results obtained. I trust that "Miner" will be present and take part in the discussion, and I shall be happy to send him or any other of your readers who may be interested in the subject cards of invitation. JOHN HOLLWAY.

London, March 19.

[We have forwarded the card enclosed to "Miner," who will, no doubt, attend to it.]

REDUCING SULPHIDE ORES WITHOUT FUEL.

SIR,—Having read with a considerable amount of interest and not a little amusement the controversy on Mr. Hollway's paper, as read before the Society of Arts, and as I happen to know a little of chemistry and copper extraction I may, perhaps, be permitted to say a few words on the subject.

In doing so I shall confine myself more particularly to replying to "Miner's" first letter, leaving Mr. Allen and "Miner" to settle between themselves the question of women and the alternative as best they may.

One would suppose in reading the first part of "Miner's" letter that there had been a considerable amount of adverse criticism on the paper at the Society of Arts, and that Mr. Hollway had got considerably the worst of it. As a matter of fact, the only objections to the process were that Mr. Keates had anticipated Mr. Hollway, and that Mr. Lomas drew attention to the fact that there was not an atom of sulphur condensed.

Such questions as whether gannister or lime lining would be most suitable, the arrangement of plant, &c., do not partake of the nature of adverse criticism; and here I beg to remind "Miner" that it would not have been necessary for Mr. Hollway to prove that Mr. Keates' process and his were not identical if somebody had not made the statement that they were the same; and Mr. Hollway has just as good a right to assume that Mr. Keates' opinion is favourable as "Miner" has to assume that it is otherwise. I think it almost a pity that Mr. Keates' name should be thus mentioned, as so far as I can see he is innocent enough of everything connected with the matter, but assuredly whoever is responsible it is not Mr. Hollway.

With regard to Mr. Lomas' remark about "an actual condensation of sulphur not taking place," if he used the word "atom" in its popular meaning there was no condensation; but if he used it in its scientific meaning he betrayed some ignorance on the matter, as it is an accepted truth that one atom at least of the sulphur can be volatised as sulphur, and can be condensed.

There was also, I have omitted to say, Mr. Vivian's letter, which, while valuable as the opinion of a man of great experience and ability, can scarcely be looked upon as a criticism.

I think "Miner" will agree with me that his first and strongest objection is, to use his own words, "his experimental data were negative so far as concern the production of copper;" although he immediately adds that "no suitable apparatus was employed, no satisfactory results were obtained; therefore, no conclusion can be drawn."

I scarcely think that "Miner" meant to condemn the process because metallic copper was not the product; but his letter certainly conveys that impression. It is, I think, very evident on reading the paper that all Mr. Hollway expects is a regulus or coarse metal; and for "Miner" to quote the paper, and say "that this regulus was found to contain 12 per cent. metallic copper" is beside the question altogether, especially when he adds "so that the gold and silver are not worth consideration," the logic or chemistry of which inference I do not understand.

His next objection is that "he appears merely to have got an unmanageable mass of slaggy matter, with veins of regulus disseminated through it." Now, so far as I can gather from the paper there were no special means taken to facilitate the separation of the regulus and slag; and if, as "Miner" says, no proper apparatus was used for the process any success there has been makes it all the more encouraging.

Let "Miner" imagine the slag and regulus from a melting furnace to be tossed about in a molten condition, as it must have been in those experiments, and poured into a cold mould. The result, I think, would prove to him that the Hollway regulus separates quite as well, if not very much better, than that from the melting furnace. The separation seems to me to have been wonderfully complete, and when using a blast furnace arrangement with a quiescent hearth or other arrangement for facilitating the separation it will be quite as complete as in the ordinary English method of smelting these ores.

That the copper left in the slag exists as a regulus disseminated through it "Miner" admits, and that it will separate I do not think he will deny; and I think that if he had carefully read the paper he would scarcely have compared it to the ordinary calcining process, seeing that is entirely a melting process, and that the slag and regulus must have been as liquid as water. A. Z.

PROGRESS IN LIGHTING.

SIR,—There certainly has been progress in lighting by gas as well as by electricity since the beginning of the year. The Jablochkoff carbon, which, thanks to the indefatigable activity of the French Society and to their large capital, was pushed forward more than all other electric lamps, and has been put up for public show at the Embankment, at the Holborn Viaduct, and at other places was, perhaps, the first cause to stir up the gas companies, and the gas engineers to invent new lamps and new burners; and, indeed, it was high time to begin to improve the gas lights in our streets, which had been the same, I believe, the last 50 years, and, perhaps, would have continued the same for another half a century, at least as long as the gas companies had no competition, and were always sure to make large profits. But since the electric light threatened to supersede gas the gas lights began to be improved, and Mr. Sugg first brought out new lamps, which were put up at Waterloo-road, and Mr. Edmundson put up his new lamps at Westminster Bridge. These two gentlemen are the pioneers in improved street lighting by gas—others will follow. Also, gas lighting inside the houses begins to be improved. Mr. Livesey, well known for having introduced many new inventions, has patented the improvement of gas light by naphtaline, started the Albo-Carbon Light Company, and shows his experiments at the Westminster Aquarium. If it answers, which we can only know by trying it for some time, it will really be a progress. I recollect having done something similar without a patent, and without forming a company, and I will give you the benefit of my experience. The gas in our town was for a long time very bad, and complaints about it were of no avail. I thought, therefore, that I would try to improve it on my premises. I did it in this way:—I took an iron vessel, of the size of about 2 ft. square, and filled it with gazoline, put it up between the meter and the main pipe, so that the gas had to pass the gazoline, and I found that I gained in this way much more in power of lighting than I sacrificed by the cost of benzoline, which, of course, had to be renewed from time to time. I advise others to try it. They will, no doubt, gain the same favourable results, and if the gas companies will only reduce the prices we can afford to spend a little money for the gazoline to improve it. In Wolverhamption the price for the gas was lately reduced to 2s. 6d., still the company pays 10 per cent. to the shareholders. Why can the London gas companies not do the same?

And there has also been progress in lighting by electricity, not so much by the Jablochkoff candle, which it seems had its time, and has in the last few months done more harm to the progress in electric lighting than it has done good at the first introduction of it. This Jablochkoff candle has not been very fortunate at the Billingsgate Market, at Weston-super-Mare, and other places. The Metropolitan Board was only persuaded to keep it a few months longer at the Victoria Embankment by a reduction of prices, which the French Society offered, and even at Paris they had to reduce the prices in order to keep the light a little longer before the public. At the British Museum the Jablochkoff candle had, at least for a short time, a better success; but it has not been made public how much are the costs of it. Since then it became known that the Jablochkoff patent is not valid at all; everyone can make the carbons if he likes to do so, and if he thinks that it would pay him, which I doubt very much.

Suppose that a good business could be done with these Jablochkoff's candles, what a good speculation would it have been. I will only add, to avoid misunderstanding, that this patent became void because, by mistake or by oversight, the first patent was not completed; it became, therefore, public property, and the second patent did not contain any important detail which had not already been published in the first specification. This is a lesson to those who take out patents. I could point out other patents which are, to say the least, very doubtful. The moral is, be careful when you take out a patent or buy one, and trust only to your own searching.

Good progress I am informed has been made in Rapieff's and Werdermann's lamps, and shortly we may hear more about them. Also, Mr. Wilde's machine has opened a fair way of progress, by successfully experimenting on board of the turret-ship Dreadnought. New machines and new lamps have been introduced recently from Germany; they are exhibited by the well-known electrician, Mr. Ed. Paterson, in Bedford-court, Covent Garden. The maker and patentee of the machine is Mr. Sigmund Schuckert, who has gained the highest reputation as an electrician in Germany, and the lamps are the invention of Mr. Krupp, the famous ironfounder in Essen, who is lighting up his workshops with his electric lamps, and Mr. Schuckert's dynamo-electric machine. The lamps are made by Mr. Schuckert. The exclusive agency for both is in the hands of Mr. Louis Simon, in Nottingham. Mr. Schuckert's machines are in use chiefly for lighting workshops, public places, steamboats, railway trains, and also for plating and electrotyping purposes, also by photographers who wish to take photos at night as well as day time. The Austrian Government takes much interest in introducing Mr. Schuckert's machines on railway trains; they are now in use on all express trains on the Crown Prince Rudolph line, and there is no doubt that other railway companies will follow. It is very desirable to introduce the electric light on steamboats and express trains. Many accidents may be avoided by doing so, and it appears that the Schuckert machine and Krupp's lamp are well adapted for that purpose. CHARLES STEENE, C.E.

CANADIAN MINING NOTES—1879.

SIR,—The new year has opened in Canada, and all that can be said is that we are better off than our English brethren. Probably no New Year has been so cold, both socially, commercially, and physically for many years in England. In Canada we have "great expectations." We have a new Government, headed by Sir John A. Macdonald, who stands in Canada as a statesman in the same position that Wellington stood in England—as a soldier. We have a new and undeveloped country, capable of supporting millions of people, yet unopened, and calling, with its boundless praries, its splendid water power, and its wealth of coal and iron in juxtaposition, for the hand and industry of man. We have a new policy—the National Policy—which in reality is nothing more than a defence against the agressions of the United States of America. That remarkable nation, whose citizens are so sharp, that any two boys placed alone in a room together will make half-a-dollar each in half an hour by trading jack-knives, have ever since the panic of 1873 been using up the small Canadian market, and not allowing us the use of their United States market. We have been like a poor man with 10 acres of land allowing the cattle of the rich man with 10,000 acres of land to come over and eat up all our pasture, while the rich man had a strong stone fence and kept our cattle out. We have had free trade all on one side, like the handle of a jug, and now we have at last awakened to the truth that Providence help those who help themselves, and propose to protect ourselves.

Self defence is the great law of Nature. We have not derived it from our ancestors—we have not been taught it by the learned—we have not learned it from books, but it is innate, and stamped in indelible characters on our very frame, that if our lives or property are in danger we should take every reasonable means for their defence. Yet the Grit Government, with the Hon Mr. Mackenzie at its head, and the Hon. Mr. Cartwright Finance Minister, could not see their way to do anything for the country in the matter of self-defence. The Americans are beginning to understand that the people of Canada understand them. Their attempts to bamboozle England in the Fishery Award in the same way that Daniel Webster fooled Ashburton, and, in fact, got the better of England in every other treaty, has been frustrated. As soon as the Conservatives on Sept. 17 last swept the country, and proclaimed at the polls the national policy, in the United States Congress a bill was introduced lowering their stone fence—a sort of bid for Canada not to raise her wall. The United States see clearly the large market Canada is going to be. They know almost all the available land belonging to their Government is disposed of, and that the North-West of Canada will fill up with the same rapidity as the States of Illinois, Indiana, and Iowa. Already the rush of immigrants is beginning, and every ten days a party starts from Toronto for the new land of promise. The railway to Winnipeg is finished through St. Paul in winter and by Duluth in summer, and parties are being made up all over for the taking up of new homes in the new country.

With the banks failing in Scotland, in the West of England, and the general depression in England, it seems wonderful to Canadians that the intelligent and philanthropic people of England do not take some reasonable and speedy means for helping their poorer brethren, and helping themselves and their country. Emigration from England now would be a real mercy. It would help both him who gave and him who received. To the emigrant it would give 160 acres of land that would produce from 20 to 30 bushels of wheat to the acre; to the man who stayed in England it would decrease competition. Emigration properly systematised would empty most of the poorhouses and workhouses, and would place in our North-West Territories men who owning the land themselves would either have to work and till it or starve. There is no place for the lazy man in our North-West Territories.

Now, perhaps while urging the people of England to take some steps for their poor, reasonable steps that will result properly carried out in the advancement of the poor of England, and in the development of Canada, it would not be out of place for me to sketch the plan which perhaps might be followed with success. It will require the attention of the Parliament of England, and will be the means of attaching the Mother Country to her colonies by yet stronger ties, while at the same time it brings wealth to the people of England. My plan is, therefore, to organise the Army of Peace. The first step is for the Government of England to pass a Bill, of which the following might be the chief provisions:—1. The army of peace shall be composed of 12 regiments, of 1000 men each, divided into companies of 100 men, and cohorts of 10 men.—2. The officers shall consist of one colonel, ten captains, and 100 non-commissioned officers for each regiment.—3. The Government of Canada to set apart land for each regiment as follows:—For each man, 320 acres; for each non-commissioned officer, 480; for each captain, 1280 acres; for each colonel, 5000 acres. The term of service shall be five years. Each regiment shall be allowed 100,000*l.* for the purpose of settlement, and shall pay in trust on the same at the end of the first year at the rate of 5 per cent.; the amount to be a first charge on the land.

This is a crude outline of the idea of the Army of the Peace. The

Government in England could issue a loan, and get it taken up at about 3 per cent. The Army of Peace under its proper officers, and with proper agricultural machines and an organised body, would come over to their new land. In five years each acre of the whole land belonging to the regiment would be worth more than 1*l.* an acre, and the regiment might either keep on paying the 5 per cent., or pay up the 100,000*l.* The details might be governed and elaborated by some military men, but I have given the idea, which only requires some men of energy and philanthropy in England to carry into actual operation.

Now is the time for some person to take it up in the House of Commons. If Mr. Thomas Brassy or Mr. Plimsoll, or some such men, were to take the necessary steps they would find hearty co-operation on this side of the Atlantic. I have been so engaged in the new territories that I have not mentioned mining yet in this letter. Not much is being done, although in the Ottowa district some sales of phosphate lands have been made. In the winter no prospecting can be done, but in the summer there will, probably, be a great stampede to Thunder Bay country.

In my next I will give you more particulars of the north-west, and some notes on the mines at the Height of Land.

Toronto, Feb. 26. BOURNONITE.

THE CAPE MINES.

SIR,—It would appear that some uneasiness has been felt by shareholders in this company at seeing the dividend lowered to 12s. 6d. for the last three months, and that sales have been made as low as 24*l.* 10s. per share.

It must be borne in mind that the dividend is ruled by the average price of the unit during the twelve months ending May 31:—

The September dividend was	17s. 6d.
The December "	17s. 6d.
That of March	12s. 6d.
If, therefore, that of June is only again	12s. 6d.
We still get for the year.....	60s. 0d., or £3.

Not a bad result when all other copper mines are on the verge of ruin, and one that should satisfy the most inveterate grumbler. Most other mines, indeed pretty well all, both English and foreign, are losing heavily—a state of things which cannot go on much longer.

If the Cape mines can thus pay dividends with ores at 10s. 3d. and 10s. 5d. there appears to be an immense future in store for them. Compared with other mines the vast mineral districts so far discovered of this company are but things of yesterday, and only just in their infancy, and the recently constructed railway ensures regular deliveries of the ores to the rising Port Nolloth. Shareholders will have cause to regret parting with their holdings in this most promising concern.—*March* 19. H. D.

P.S.—A dividend of over 10 per cent. in a copper mine at present price, in the very worst of times copper has ever gone through, appears to me to be eminently satisfactory. A Hudson's Bay share paying nothing is valued on the Stock Exchange at 14*l.*; a Cape Copper, with a 3*l.* dividend, at 27*l.* Where is the sense of this when furs, the mainstay of the Hudson's Bay property, are of a far more fluctuating value than copper? If I mistake not, Hudson's Bay have paid nothing for two years past, and but a meagre dividend when they pay at all.

THE NOUVEAU MONDE GOLD MINING COMPANY.

SIR,—With reference to the important discoveries of gold in Venezuela, I beg to enclose, for the information of your readers, the following extract of a letter just received by us from our agent in Ciudad Bolivar (Venezuela), dated Feb. 15:—"The gold discoveries are every day increasing, and the prospects of all the companies established here are very encouraging. For instance, the shares of the Eureka Company in a short time have doubled in value—the original price was 160*l.*, there are now buyers at 320*l.* I have received a letter announcing that a solid piece of gold weighing 112 ozs., and valued at about 440*l.*, has been discovered in our mines." In the presence of such indisputable facts there is not the slightest doubt that Venezuela is a new and vast field for the supply of this precious metal.—*London, March* 20. F. PAGANELLI, Managing Director.

EBERHARDT AND AURORA MINING COMPANY.

SIR,—As one of the original founders of this company, and having personally inspected on two occasions the property, I wish to draw the attention of shareholders, through the medium of your widely circulated Journal, to the fact that at any time within the next few weeks we may, and probably will, hear of a discovery of ore in the tunnel, the workings of which are close on to the original Eberhardt ground, and to warn holders not to be induced to part from their shares on any insignificant rise, as a discovery of importance would be followed probably by an improvement in value, which would astonish the most sanguine. I may add that local papers recently to hand report on the prospects and appearance of the workings as most promising.—*London, March* 19. J. PEARLESS.

COLORADO UNITED MINING COMPANY.

SIR,—It has reached me as a person deeply interested in the welfare of the Colorado United Mining Company (Limited) that certain unscrupulous parties have it in contemplation to attack this mine for the purpose of affecting prejudicially the market value of the shares. I, therefore, deem it my duty to ask you the favour of permitting me to warn shareholders against being misled into selling their shares on garbled exparte statements circulated by operators for the fall for their own evil purposes. Finally, I ask those interested to await confidently the return from America of Mr. Andrews, the secretary, whose statement I believe will be most reassuring.—*March* 18. FAIR PLAY.

THE WYNAAD (INDIA) GOLD FIELDS.

SIR,—There can I think be no doubt that as was stated in the *Mining Journal* a fortnight since those interested in the development of the South Wynaad gold fields have been prejudiced by the delay which has occurred in the issue of Mr. R. Brough Smyth's official report, nor can there be any doubt the rumour is very general that owing to the dryness of the district and other circumstances it would be practically impossible to work the reefs to a profit. But it seems the liquidators of the Glasgow Bank; Smith, Fleming, and Co.; Nickol and Co.; and the other bankrupt firms concerned, are neglecting the best interests of the creditors in not at once publishing a correct statement of the case. And it is the more unfortunate that the few facts which have been published in this country—chiefly in the *Mining Journal*—confirm rather than otherwise these adverse rumours. First there was the report of Mr. Oliver Pegler, which from a miner's point of view was unfavourable; in fact, he seems to have been unable to find anything worth working, for it is a point which cannot be too carefully kept in mind that the existence of reefs does not afford any evidence that gold mining can be profitably carried on, and that probably not one in 50 of the known reefs in the world are worth working. The extremely low produce of the reefs, concerning which figures have so far been given, is extremely discouraging, but the great value which I apprehend will attach to the report of Mr. R. Brough Smyth is that it will state which of the many reefs he is alleged to have discovered are likely to prove worth further trial.

But the water question is the great question, and it is said to have been declared on the authority of men acquainted with the district that there is practically none available for gold washing operations, and that the coffee farms have great difficulty in obtaining water for refreshing their crops, all that they have being brought by little ditches, in which there is a very limited supply. Now, this rumour has not been denied, and appears to be to some extent confirmed by the statement that it was the coffee planters' rights which Messrs. Nicol and Co., or Messrs. Smith, Fleming, and Co., had been endeavouring to buy up, and had at last succeeded in doing. All these rumours could be set at rest at once if any of the liquidators or trustees, or Messrs. Smith, Fleming and Co., were to state what is the area proposed to be worked, and how many miners' inches of water are available.

The Scotch capitalists are usually very impulsive in their mining ventures, and from their carelessness in ascertaining the probabilities of success before embarking they have not always been successful, but it is for the advantage of mining that they should secure profits, and large ones too, upon their investments, and this they may readily do if they are only careful to make a few enquiries before risking their money. On the same principle those who seek to procure capital in Edinburgh, Glasgow, and other places in Scotland for the development of mines cannot do more to secure the success of their appeal than to give all such particulars as are necessary for the formation of a correct judgment, which in the case of the Gold in India project are not yet before the public. SCOTIA.

March 17.

THE NORTH WALES SLATE TRADE.

SIR,—Your correspondent "X.," whose letter on this subject appears in last week's Journal, cannot be very well acquainted with the nature of the various items of which the total cost of slates is composed. He argues that because the price lists have been reduced 15 per cent., and the slate makers' wages have also been reduced 15 per cent., therefore good profits are likely to be made, and there is room for a further reduction of 15 per cent in the price lists. That this is a fallacy will be at once seen when the fact is taken into consideration that the pay of the slate makers is only about 50 per cent. of the actual cost of the slates to the quarry proprietor. There is no 15 per cent. reduction on royalty, carriage, rates and taxes, &c., which go to make up the other 50 per cent. If there are purchasers who are postponing the booking of their orders in hopes of a further reduction in the price lists, I think they will be disappointed.—*March* 18. C. E.

WELSH GRANITE QUARRIES.

SIR,—I am glad some of your correspondents have been kind enough to notice my letter, and to offer some explanations; but on perusing their remarks carefully I can only say they go far to confirm the views I previously expressed—the inexpediency of investing my money in any new speculations in the district, or of advising any of my friends to do so. Firstly, to clear one point, as they think (and not very generously in my opinion) it well to question very frequently in their letters whether I really possess 4000*l.*, I beg to assure them—if it will not astonish them too much—most positively that I do, and that it now lies in the Three per Cent. Consols waiting for a better investment, and that I was previous to my visit disposed to invest it in this locality, and also that several friends with capital would have been influenced by my opinion. Why your correspondents should make such remarks I cannot tell, for surely in their experience even if they have not seen they must at any rate have heard of such a thing as one person being possessed of so large a sum. I hope I have made this point clear.

From what I have learned the "general" statements of production, costs, and profits that have from time to time appeared in the letters in the Journal I consider have been very inaccurate and misleading, and can, therefore, have no faith in them; but as your correspondents have taken the trouble to give some little "detail" of cost, perhaps you will be good enough to allow me to make a few observations upon them. My little experience will not enable me to question their details of cost, so I will take their own figures and deal with them; and, as in one case they give what "ought" to be the cost, and in the other what "actually was" the cost, by a careful investigation of the two we may arrive at a very fair estimate. It is stated "the average selling price to be 20s. per ton, f.o.b."

In the concluding sentence in the letter it states what "actually was," the cost at one quarry, and this is taken as an example. It states—"This quarry was actually taken by settmen on a contract to produce the setts ready for shipment at an inclusive cost, with the exception of royalty, of 14s. per ton." Now, if you add to these figures from the other details quoted—royalty and way-leave at 3½d. per ton (in one case put at 3s. 2d.—this is a printer's error, I presume); stationery, rates, bills of lading at 1d. commission (30s. on 40 tons), say 9d.; incidentals, management (local), wear and tear, and general depreciation of plant, 4s.; and these are all their own figures—would make a total of 19s. 1½d. per ton, leaving a profit of 10½d., being much less than 5 per cent. profit. Surely your correspondents in their enthusiasm by mistake could not have added in a cypher, and thus making it appear as 50 per cent., for this would be a serious mistake.

As to the other remarks in the letters, I can hardly see how a granite quarry can bear any comparison to a "ladies' drapery establishment," and still believe in the views I formerly expressed as to the result of competition, and therefore concur with the "Report from North Wales," &c., contained in your last week's paper, stating—"It must be admitted the amount of profit per ton is too small, and that there must be a reduction of wages in this business if proprietors of quarries in North Wales are to find it worth while to compete with setts from other districts."

As to the remark about "opening a grocer's shop next door to a large and profitable establishment," I need hardly say it is not my intention to do so, and with respect to my observations as to its being an iron-bound coast, and dangerous for ships, I beg to say I did not refer to the iron mine mentioned, and would consider it very curious indeed if a ship could be found in such a place.

I have spent some little time and expense, as shown in my former letter, in the Carnarvon Bay district sett quarries, and my little experience appears all the more confirmed by the letters I have just read than otherwise, and so beg to remain, as before—

ANOTHER VISITOR TO THE CARNARVON BAY DISTRICT, AND WOULD-BE INVESTOR OF £4000.

London, March 17.

THE CAMBRIAN MINING COMPANY.

SIR,—With your kind permission I will venture to make a few remarks with design to encourage my fellow-shareholders, whose property is at present under the lash of certain disparaging statements lately made by a writer in your valuable Journal.

On the point upon which he lays so much stress I have not much to say, as I think the mine is too heavily weighted; however, as shareholders we have entered into it with all its conditions, and I presume not without forethought, and now the question for us to consider is, have we paid a price above its value? My own opinion is we have not, its intrinsic worth being far beyond the power of our computation, looking at the highly mineralised character of the lodes, its great width, and a length of three miles within the boundaries of the property.

My investment was made under the advice of a gentleman in whose character, knowledge, and experience in such matters I have the utmost confidence, and whose predictions, founded on practical and scientific knowledge, have been verified by results more and more confirmed as the development of the mine has proceeded.

It is very noticeable that almost all the points to which efforts have been directed have one after another amply fulfilled the favourable expectations formed, and there is every reason to believe that those remaining will prove equally successful. From the captain's report, dated 8th of the present month, we gather that in one part of the mine (Esgair Ffraith) there is a leader of rich copper ore, 1 foot wide, improving towards a deeper point; in another the course is 3 ft. wide, nearly solid, equal to at least 4 tons per yard, or 8 tons per fathom; in two others lead, each 1 ton or more per yard, or about 2 to 3 tons per fathom—this valuable produce lying at the shallow depth of 70 yards, or only 35 fms., and indicating that lying in the still further deeps below there are masses of ore immense in magnitude and incalcuable in worth.

The richness of quality I can myself testify to, having in my possession some fine specimens of rare beauty struck from the rock in my presence when on a visit to the mine from Aberystwith in the course of last summer. I think we are greatly indebted to Mr. Absalom Francis for the full and free expression of his high estimate of this property, and the information he communicates in his various letters in the Journal, and also especially at the present time, for his stepping forth as our undaunted champion to repel those adverse statements made to undervalue and deteriorate the market worth of this important property.

There is no doubt the observation of Mr. Francis is correct that "the Cambrian mines are developing the richest courses of copper and lead discovered in Cardiganshire for many a year; but it will require some time to lay them open to work them to the best advantage;" and, also, that "if the shareholders are led to part with their interest in the meantime from any untrue or absurd remarks from the above-said correspondent they will have themselves only to blame."

In a few months another level will be reached 22 ft. below the present depth, and no doubt further treasures revealed; and I trust our directors will put forth every effort to promote the earliest development by adopting the most efficient modern appliances of mining progress, and then I verily believe those shareholders who have patiently kept their property will fare the best.

March 17. A SHAREHOLDER.

MINING IN CARDIGANSHIRE.

SIR,—Your correspondent, who dates from Goginan, having courteously given me a *locus standi* by conceding that I really hold an interest in mines in the county, I feel justified in once more trespassing on your space to point out the innocent and unsophisticated way in which the remarks of your valued reporter for the district are attempted to be directed from individuals to mines. As I read your reporter's remarks, there is nothing whatever said by him against the mines of the Goginan district, but simply, to quote his own words, "to protest against the mine gambling which is so common in the neighbourhood;" therefore seeking to evade the question by drawing in such mines as Goginan, West Goginan, or Bwlch Consols, which are managed by three of the most straightforward, intelligent, and practical mine managers in the county, who seek neither the publicity of your columns (gratis), nor that of the County Court, is to say the least of it begging the question. I shall be able next week to send you an excerpt from a local paper relative to one of these Goginan transactions which lately took place. For the rest I must leave your reporter to fight his own battle.

Regarding the Cambrian Mines, over which such a hot battle has been fought, and of which your correspondent "Miner" says everyone who knows their history will be able to judge. Well, I happen to know that during the past half-century or so they have appeared at several times as Welsh Potosi, Cardigan Consols, Esgair Hir, none of which companies ever made profits; the last (Esgair Hir) having spent all the capital—14,000*l.*, and all the value of the ore raised 8000*l.*, in all 22,000*l.*, and then sold them "lock, stock, and barrell," to the Aberystwith tradesman for 1500*l.* (not 500*l.*) The discoveries made are specifically claimed to having been made previous to the sale to the company. How is it then that two years have elapsed and yet no dividend, surely they could emulate the Allt-y-Crib Mine, which paid one dividend of 6d. per share. As to the South Cambrian, which has always sought the reflected glory of its neighbour, it consists of an adit level driven into the hill side, and contains nothing but blende; its prospects and value I, therefore, had better leave to your readers to judge, and justice compels me to add that it is hard on the Cambrian Company, who only ask to be let alone, to be dragged into the hunt for the purpose of gilding the prospects of their undeveloped neighbour; it is the old story, "Save me from my friends." As to the concluding remarks of "Miner," your correspondent knows as much of the mines of Cardiganshire as the mines know of him. I dare say he could return the compliment inverted, and say the mines of Cardiganshire know more about "Miner" than he knows about them. Your correspondent, whom I have called "reporter" to distinguish from the ordinary correspondent, has always shown a sound and practical knowledge of what he writes about, and I fear his knowledge is rather too extensive to please "those who hail from Goginan;" at the same time I would ask you kindly to endorse my statement that I have not the slightest knowledge of who your reporter is, but I do trust he will not be deterred from continuing his remarks, however uncomfortable they may be to "those who hail from Goginan."

Aberystwith, March 19. G. I.

NANT-Y-MOCH MINE, CARDIGANSHIRE.

SIR,—As this mine is about again being started, I think a short letter respecting its position, and the work done, and its future prospects, may be interesting to those now holding the property, and may also prove an inducement to capitalists to join in a more than ordinary safe investment. The mine is situated about four miles north from the mail—or turnpike—road, from the Ponterwyd Hotel; eleven miles from Aberystwith, there being a parish road leading from that place on to the mine, not in very good repair, but which could be made so for a sum of 60*l.* The main lode at Nant-y-Moch is about 40 ft. wide, where seen in the adit level near the surface and west of the engine-shaft, composed of quartz, mundic, blende, and gossan; and at so shallow a depth—about 5 fms.—I have never seen a vein of more promising appearance for making great deposits of lead ore. It has the exact run and is of the same character as the Cwm Symlog main lode, and there is no doubt on my mind that it is the Cwm Symlog, or now East Darren lode. There is a cross lode running 20° north of west, 4 ft. 6 in. wide seen at surface, composed of gossan and flookan, the latter being well filled with fine lead ore. These lodes fall together and form a junction, according to the run and dip of the cross-lode at surface, about 30 fms. west of the engine-shaft, which has been sunk 30 fms. under adit, and the lode cut through from south to the north wall, where in this place we find it 60 ft. wide, containing branches of rich lead and copper ores. On the north wall of the lode a distance has been opened of about 8 fms., the lode all the way producing stones of lead ore. We then turned our level southward, obliquely through the vein, and have driven about 6 fms. in this direction, having yet about 6 fms. to drive to reach the south wall, under the lode described as being opened in the adit level. All the stuff broken in the oblique drivage is filled with fine lead ore, and the forebreast of the level, at the time of the stoppage, was emitting a large quantity of gas, similar to that found at the Van Mine. I have never seen two lodes such as are running through this grant, which is a half-mile long on the course of the main lode, and held by tack-note at 1-16th royalty, and which will hold good as long as the mine is continued to work, and cannot fail in producing very large bodies of ore. Neither did I ever see in any part of the Principality a north and south lode so likely to produce ore in paying quantities as the lode I now speak of at Nant-y-Moch.

Owing to the flookan in this lode, which I have before described, it seems to have had such an effect on the surrounding strata as I never before witnessed in this county; as in sinking the engine-shaft we had to close timber it from the surface down to the bottom of the 30 fm. level, but at present and for future sinking the ground will stand without support. I need not say that this work was very expensive, and required a long time to accomplish, and this with a great quantity of water issuing from our forebreast has taken a greater capital to develope the mine than was originally contemplated, as it is found the present machinery—which consists of a 22 ft. water-wheel, 3 ft. 6 in. breast, with a line of rods, and 8 in. diameter pump—although able to cope with the water at the 30 is not sufficient for deepening the mine to a 50 fm. level, where, if capital is raised, it is intended to erect a 40 ft. wheel, 4 ft. wide, for pumping, and to leave the present wheel for drawing the stuff, and for which it has ample power, a drawing machine being now attached to it, and which it worked in addition to the pumping of the water from the 30. To sink the engine-shaft from the 30 to the 50, including pitwork and every necessary, it is calculated it will require 500*l.*; to erect machinery, 500*l.*; to open out the 50 fathom level, if successful in finding a rich body of ore, before stoping, including agency and every other cost, 100 fms., at 10*l.* per fathom, or 1000*l.* more.

The money expended at present amounts to 2500*l.*, and it is contemplated to raise a capital of 10,000*l.* The present holder to receive for the mine 500*l.* in cash and 2000*l.* worth of fully paid-up shares, leaving a working capital of 7500*l.* for the full development and the bringing it into a profitable state, a sum greatly in advance of what is really needed, and before the expenditure of which, in my opinion, if there is another Van to be found in this district it will be found at Nant-y-Moch; and to back this opinion I will most willingly

take 1-20th part of the required capital, and shall feel a pleasure to anyone who may really contemplate taking an interest in it by giving every information respecting it in my power.

Goginan, Aberystwith, March 17. ABSALOM FRANCIS.

MINES AND MINING IN CARDIGANSHIRE.

SIR,—I have read with some interest the remarks of Capt. Francis on this subject, and I have not the least doubt your Correspondent for Salop and Cardigan is well able to defend himself. I may, however, remind Capt. Francis that telling the truth, and making fair statements, is not traducing mines, and I must protest against the spirit of prophecy which he assumes under the influence of certain elements. Now, with regard to the list of mines which he gives surrounding Goginan, and begin westward with West Goginan and Melindwr, both under Capt. Kitto's management. Profits *nil*, prospects very poor. Goginan, said to be about being abandoned by the Messrs. Taylor, has been a splendid mine, but is exhausted so far as profitable returns are concerned, or would not be given up by such a respectable and practical firm as the Taylors. The Bwlch United, under the management of Capt. Bray, has been like its neighbour, Goginan, in one respect, a very productive mine, but not a very profitable one; the Goginan deep adit may be the key to its future prosperity. The Cwm Brwyno has been a productive mine, but not a profitable one, and if it failed when shallow to be profitable, with ore at a better price than at present, how is it intended to make profits now, with a deep mine, and exactly the same appliances as heretofore? Have profits in reality ever entered into the remotest regions of the fancy of the leading promoters? Tyn-y-fron comes next, and, so far as development goes and ore in sight, the proprietors need not be in a hurry as to the erection of machinery—that is, to treat ore that will leave a profit. New Bronfloyd, Old Darren, South Darren, East Darren, Aberystwith, and Temple I will pass over to the last, but not least, "South Cambrian, which is opening out all that can be desired," according to Captain Francis, but, in fact, a very poor prospect; and, notwithstanding the large estimates of profits contained in the advertisement published some months ago by a well-known Liverpool firm, your correspondent can venture to undertake to find room in the British Museum for any ore, lead or blende, which can be taken from that concern yet awhile.

My object in writing this is to raise my voice strongly against the manner some mines are made the subject for financing, and filling needy people's pockets. There are good and rich properties in the county, and splendid results have been obtained, and will be again, but "good wine needs no bush," and good mines speak for themselves in the profits; no trumpeting is necessary, and those who have the good things can do very well without letting the world into the secret. "Miner" is simply a Goginan echo. G. J.

WHEAL PEEVOR MINE.

SIR,—As I have for many months past recommended my clients and friends to invest in this mine, and some of them having acted on that advice, and thinking that the following question asked of Capt. White by Mr. Thompson at the meeting, reported in last week's Journal, was not answered as satisfactorily as it might have been, undoubtedly, through a press of other business being then on the mind of Capt. White. Mr. Thompson said, before Capt. White rose, he would like to ask him what was the length driven since last April, the average value per fathom, and how much stuff was removed?

In order to give a right answer to this we should have to account for the tin sold for ten months, which may be taken in round numbers at 1200*l.* worth per month, or 12,000*l.* And for tin opened in adit level, 26, 36, 50, 60, 70, and 80 fm. levels, together 172 fms. 3 ft. 11 in., which should be divided by 10 for the months, or equal to 17 fms. 2 ft. 8 in. per month, and that by 7, for the number of levels kept going, including the adit and the 80 fm. levels, would give us 2 fms. 2 ft. 11 in. per month, or (say) 2½ fms. per month with a back of 80 fms.; or 200 fms. per month, at 20*l.* per fathom, as estimated by Capt. White, would give a total quantity of tin laid open monthly of 4000*l.*, or nearly four times the quantity of ore returned. I have allowed the tin opened over the adit level to compensate for the tin extracted from the different levels, and which I think I may fairly do, as the adit level has passed through profitable ground and has a height or back of 50 fms. over it.

I thought this explanation would be satisfactory to all concerned in the welfare of Wheal Peevor, and if my calculations are incorrect undoubtedly Mr. Pryor or Capt. White will correct them, as I have no wish to make things better than they really are, but to have such a statement by which all interested may know the real and true value of the property they hold an interest in, and which I cannot help thinking is the very richest and best in Cornwall, taking into consideration its position and prospects, and should tin ever advance to 75*l.* per ton, and the mine return the quantity of tin opened, the shares now quoted at 9½*l.* and 10½*l.* will go to and will be honestly worth 45*l.* per share. ABSALOM FRANCIS.

Goginan, Aberystwith, March 17.

P.S.—Since writing the above I find from last week's Journal that the returns of tin for 12 months were 452 tons, or 37⅔ tons per month, which realised 34*l.* 5s. per ton, or 1291*l.* 1s. 8d., and this for 10 months we will in round numbers take as 13 000*l.*, against 40,000*l.* worth laid open, or leaving a reserve of 27,000*l.* worth in that time. From the report of Capt. White, presented at the meeting, it appears that a new drawing shaft with a double skip is being pressed forward, and I need not point out to anyone practically acquainted with mining that when this is completed returns can be made, if thought necessary, equal to the tin laid open, and that Wheal Peevor then will be a very different Wheal Peevor to what it is now as to profits, and not only this, everything tends to show that in depth richer tin abounds than in the shallow levels. I consider great praise is due to the officials for the manner in which the mine has been worked and is now being laid open for future working, as well as the way in which the accounts are presented every 16 weeks. And I would advise not only to have a reserve fund of 1000*l.*, but that it should be gradually augmented to 2000*l.* to meet any emergency that might be possible to arise, without interfering with the regular working and profits of the mine. A. FRANCIS.

GWENNAP—BELL VEAN MINE.

SIR,—I must congratulate Mr. Parkyn, who first started the Bell Vean Mine, on his predictions in regard to that property and others also to which I will not at present refer. A lode has been cut in the Bell Vean sufficient to satisfy the most troublesome shareholder living. Formerly I knew mines worked which gave very large profits, with orestuff producing less than 1 cwt. of tin to the 100 sacks of 10 tons. I am assured that the lode in Bell Vean, although a very wide one, will yield 20 cwts. of tin to the 100 sacks, or twenty times the amount of tin which in past times enabled mines to pay profits. It appears to me that this discovery will prove a means of opening the Gwennap district afresh, and I know full well that the district will faithfully respond to the call made upon it.

CORNUBIA.

CORNISH MINING, AND ITS PROSPECTS.

SIR,—It is always a source of pleasure to refer to this subject, particularly when my prognostications relative to any particular mines have come to anything like a realisation of facts. Within the last four weeks the market value of six mines which I have long advocated as desirable investments have enhanced in market value in the aggregate 113,000*l.* Although this is a seemingly large increase in the value of mining property, it is considered only a prelude to the future of those great mines, the long term of depression has reached the turning point, and the enterprise of the county is again on the high road to prosperity; this has been brought about by the recent and progressive rises in the standards for tin ores, although we are to have a much higher price for this metal, the present rise is sufficient to place many mines (only paying cost throughout the time of depression) into the Dividend List, and consequently a greater market value. The copper and lead markets are in a much more healthy state, and holders of such mines as Devon Great Consols, Hingston Down Consols, West Tolgus, Mellanear, West Chiverton, and others may look forward to the much-desired turn in the tide of affairs; it may fairly be said that no time in the annals of mining has presented such chances to the investor if he chooses to avail himself of the opportunity now afforded by the prospects of Cornish mining.

St. Day, Scorrier, Cornwall, March 20. CHARLES BAWDEN.

OLD HERODSFOOT MINE.

SIR,—Under the name of North Herodsfoot this property is about to be reworked with the very best prospects. It adjoins the present Herodsfoot on the northern boundary of the latter, and it gave the principal part of the dividends of 64,000*l.* paid by the original Herodsfoot Company. It was abandoned under peculiar circumstances, principally by reason of disputes between the landlord of the property and the late manager. The engine-shaft is 150 fms. deep, and the workings completely drained by the engine working on the adjoining mine, thus relieving this (the North Herodsfoot) mine from any pumping cost whatever. All the machinery required is a small engine for winding and crushing, and there is such a large stream of water flowing through the property that at all seasons of the year there is sufficient for motive power and all other purposes incidental to the dressing floors.

Persons thoroughly acquainted with the mine, including miners who formerly worked there, say there are very many points standing varying in value from 10 to 30 cwts. of silver-lead per fathom, and express their positive conviction that there is enough ore lying broken and in sight underground to pay the cost of erecting machinery and putting the mine into complete working trim. There can be but one opinion of the great value of this property, which it is to be hoped will be spiritedly worked, not only for the sake of the proprietors but the good of the locality.

I quite endorse the remarks of Mr. Waddington, in the Supplement to last week's Journal, as to the genuine character of Herodsfoot Mine; and from my personal knowledge of those with whom the management rests, I am certain the shareholders will realise all they have been led to expect. WILLIAM DERBY.

P.S.—The original property is added to by a grant on the extreme north of ground through which the Herodsfoot lode passes for more than 200 fms.

GREEN HURTH LEAD MINING COMPANY.

SIR,—Considering that this mine is in the mouth of everyone about here, perhaps a few particulars may be of interest to your readers. This company was formed a few years back with a capital of 6400 shares of 1*l.* each, upon which 6s. per share has only been called up; shortly after commencing work they found lead in considerable quantities of about 5 tons per fathom, and the shares speedily ran up to something above 5*l.*, and since then 42s. per share, or 700 per cent., has been paid in dividends upon 6s., exclusive of the most approved plant, &c., costing considerably over 4000*l.* also out of revenue; the vein then became disordered, and was partly lost, but lately a new sump has been sunk on the same vein, and lead discovered, and in 13 fms. 10 to 12 tons per fathom is proved in one part, and going down still richer below the deepest working, which is believed to contain about 15 tons per fathom; the width of vein is known to be 12 ft., with every expectation of widening when further explored. What has already been discovered will give full work for several years, and with the continued bright prospects much larger results may be anticipated. The ore is very rich, and even solid lead, requiring no dressing, is found to be in gross quantities; in the south working there are 12 to 14 tons per fathom, and in the north 5 tons, whilst only on the top of the limestone which when gone into is almost certain to be still richer. Whilst the ore was formerly worth some 16*l.* per ton, its present value is about 10*l.* with an upward tendency, and the shares are now asked for at 5*l.* 2s. 6d., with but few sellers. The mine is situated between Middleton in Teesdale and Alston, and the ore is put on rail at the latter place; the area of the mine is about two miles long and one mile wide, and bounded by the Teesdale and Dubby Syke mines. Van in its best days was probably no better, if as good, as Green Hurth, and the few fortunate shareholders may well be congratulated on their great luck. NORTHUMBRIAN.

[For remainder of Original Correspondence, see to-day's Journal.]

FOREIGN MINING AND METALLURGY.

There has been a fairly sustained current of business in the iron trade of the French Department of the Haute-Marne; the works receive a sufficient number of orders to keep them going, but there is not a sufficient amount of business doing to impart much firmness to prices. Iron wire has continued in good demand, and some of the works have succeeded in establishing an advance of 4s. per ton. In the Ardennes there is scarcely anything fresh to report—that is to say, there is no improvement in the iron trade, the market remaining dull and heavy, while the competition of the works of the Nord is also felt. In the Loire-et-Rhone some contracts will be shortly let on account of the navy; the deliveries to be made at Lorient are of some importance. The accounts of the Alfortville Forges Company do not show any profits for 1878, and, of course, no dividend can be paid for the year.

The past winter has been a good one for French coal merchants, who have been enabled to dispose upon advantageous terms of coal which they had purchased during the dead season at comparatively low rates. The situation has not changed as regards industrial coal; transactions have only been effected to meet immediate requirements of consumption, and these requirements have been comparatively limited, in consequence of the little activity which has prevailed in the manufacturing establishments. Correspondence from the coal mining districts of the Nord and the Pas-de Calais is characterised by considerable depression. Domestic consumers are giving out very few orders, and as metallurgical industry is restricting production in consequence of the accumulation of stocks, orders are falling off from that quarter. The news which comes to hand from the basin of the Loire is no better than that received from other districts. The Upper Loire Mines Company realised a profit last year of 10,722*l.*, and was enabled in consequence to give its shareholders a dividend of 2*l.* per share for the year.

Deliveries of coal in Belgium have been maintained at about the same level. Brick-making operations are about to be commenced, and it is noticed that many brickmakers who last year made a trial of German coal in consequence of the advantageous terms upon which it was offered, have this year come back to their old Belgian friends, and have purchased Belgian coal. Purchases have been made also for the next sugar season, and this circumstance has tended to strenghten the market. At the last meeting of the general committee of the Belgian coal trade, held at Brussels, under the presidency of M. Braconnier, of Liége, various transport and tariff questions were discussed, as well as the classing of fire-damp mines.

Orders are rather scanty in the Belgian iron trade. The advent of spring has in former years brought with it orders for building iron, and especially for girders, but in this current spring orders of this description have been only timidly given out. English purchasers continue to take off a fair number of Belgian girders, but there is a good deal of discussion as to prices. A contract has just been given out for 2730 tons of iron sleepers, proposed to be laid down upon the Belgian State railways. The lowest tender was that of MM. Blondiaux and Co., of Thy-le-Château, who offered to deliver the lot at 4*l.* 18s. 9d. per ton. The Sclessin Company, the Providence Forges Company, and the Moncéau-sur-Sambre Blast-Furnaces Company also tendered. MM. Blondiaux also offered to take over a quantity of old rails at 3*l.* 12s. per ton. The John Cockerill Company has proposed to the administration of the Belgian State lines to deliver 500 tons of steel sleepers at 5*l.* 19s. 6d. per ton. At an adjudication which has just taken place at La Haye for 4000 tons of Bessemer steel rails, with accessories, the lowest tender was delivered by a Lancashire firm, which was represented on the occasion by MM. Adhemar Le Roy and Co. This tender was 6*l.* 9s. 9d. per ton, delivered at Dordrecht. An adjudication has also taken place for 11,000 tons of iron rails, of different types, for the Upper Italy Railway. The lowest tenders were those of the Ebbw Vale Steel, Coal, and Iron Company (5*l.* 6s. 9d. per ton), and the Mossbay Works, 5*l.* 6s.; deliveries to be made at Genoa.

THE SCOTCH MINING SHARE MARKET—WEEKLY REPORT AND LIST OF PRICES.

During the past week the market has been firm, and owing principally to the influence of cheap money the tendency of prices has been generally upwards. The demand for investments has also been stimulated by the more hopeful views taken of a revival in trade. This returning confidence confirms the upward tendency in prices, which may be expected to continue, except in cases where some special cause for a fall may occur. While there is little if any real improvement in trade generally, the advances in the iron, tin, and lead markets, all important branches of commerce, are at least very hopeful signs that things have at last seen their worst. That they may to some extent be due to temporary causes is possible, but the return of briskness and prosperity must have a beginning, and it is satisfactory that the prospects are that it has now set in.

In shares of coal and iron companies Arniston have advanced 15s. per share in the week, Glasgow Port Washington (prepaid) 15s., ditto (ordinary) 7s. 6d., Marbella 5s., Monkland 4s., and ditto (pref.) 1s., while Fife have fallen 1*l.* 5s., Ebbw Vale, also Lochore and Capledrae, each 5s., and Chillington 2s. 6d. The principal movement in this department has been an advance of 7*l.* per share on Bolckow, Vaughan, and Company's A shares, owing to the notice in last week's Journal about the success of this company's experiments in producing steel at an exceptionally low price from Cleveland iron. Benhar are slightly lower, but only a few sales made at 13s. 6d. and 14s. Bilson and Crump Meadow and Steel Company of Canada shares are both offered. The Bilboa Iron Ore Company's report for 1878 shows 14,996*l.* to credit of profit and loss, including balance brought forward. After paying the dividend (956*l.*) on the preference shares, the surplus is carried forward. Ansley Hall 10 per cent. (pref.) shares are at 5. Bilbon 6 per cent. (pref.), 35½. Bolckow, Vaughan (A), 61 to 62; ditto (B), 37; ditto (stock), 110 to 115; and ditto 5 per cent. (pref.), 19⅝. Charles Cammell and Co. 6 per cent. (debentures), 99¾ to 100; ditto (5 per cent. (debentures), 100. Cardiff and Swansea, 15s. to 20s. Chillington, 40s. Ebbw Vale, 70s. Henry Briggs (A), 10. John Bagnall and Sons, 15s. John Brown and Co., 25¾ dis. Leeds and Yorkshire Co-operative, 70s. Lincolnshire Smelting, 20s. Muntz's Metal, 50s. prem. Nant-y-Glo and Blaina (pref.), 15. Omoa and Cleland, 5s. to 10s. Parkgate, 24⅞ dis. Pearson and Knowles, 25⅛ dis. Pelsall, 10½ dis. Sandwell Park, 14. Scottish Australian, 30s. to 35s. Sheepbridge (new), 6¼. Staveley (A), 30s. dis.; ditto (B), 21s. 3d. dis. Thorp's Gawber Hall, 10s. Tredegar (A), 13. West Cumberland, 6¾ West Mostyn 12 per cent. (deferred), 5. Whittingstone Silkstone, 8. Workington, 12½.

In shares of foreign copper concerns Tharsis have advanced 3s. 9d. per share; ditto (new) and Canadian each 2s. 6d. The returns of the Cape Company for January are 1048 tons of 23 to 35 per cent., and the latest sales realised 10s. 3¼d. to 10s. 7d. per unit. Tharsis were done at 21¾, but have since come into request at 21⅝. English and Australian, 27s. 6d. Rio Tinto 5 per cent., 60½. Yorke Peninsula, 2s. 6d. to 3s. 9d.; and ditto (preference), 10s. to 12s. 6d.

In shares of home mines Glasgow Caradon are 1s. lower. Shares of tin and lead mines have had a good rise, and it is expected the improved prices will be maintained. Tin has now advanced 9*l.* per ton in the last three weeks. In lead mines Deep Level and Minera have been in request; a brisk business also done in Rhosesmor. Cwm Brwyno offered. It is reported the Halkyn District Drainage tunnel has struck a magnificent lode—one of the finest seen for the last century; it is 7 ft. wide. Rhydalun, which may be considered the mine of the district, is looking grand; the profit this month is between 200*l.* and 300*l.*, besides reserving a great deal of its ore. Eyam are at 80s. Great Laxey, 17. Gunnislake (Clitters), 8s. to 10s. Killifreth, 1s. to 3s. Milldam, 52s. 6d. North Hendra, 6. South Roman Gravels, 1s. 9d. Van, 20. West Wye Valley, 15s.

Shares of gold and silver mines are neglected. Richmonds unaltered, after having been 9½, sellers; this weeek's run is 360,000. At Chontales in January there has been a loss of 33*l.*, at Javali a profit of 629*l.*, and at Port Phillip in February a profit of 1174*l.* The produce of a clean-up at Gold Run, after a run of 19 days, is announced $5250. Chicago are at 10s. to 15s. Colorado, 36s. 3d. Don Pedro, 17s. Eberhardt, 65s. Emma, 2s. 6d. Exchequer, 3s. 9d. Flagstaff, 2s. 6d. to 5s. Frontino, 47s. 6d. Rossa Grande, 1s. 9d. Santa Barbara, 35s. to 37s. St. John del Rey, 270. South Aurora, 2s. 6d. to 5s.

Shares of oil companies are good, and Uphalls have advanced 15s. Young's Paraffin, 5s. Prices Patent Candle, 10 to 10½. Runcorn Soap and Alkali, 6¼ dis.

In shares of miscellaneous companies, business is quiet. Birmingham and Midland Counties Val de Travers, 10s. to 15s. Earle's Shipbuilding, 23¾ dis. Hamer's Salt, 95s. Hopkins, Gilkes, and Co., 11¼ dis. In wagon company shares, Scottish are offered 5s. cheaper at 7¾, and prices of others are—Birmingham, 13⅞. British (second issue) 5s. prem. Gloucester, 7½. Lincoln, 10s. prem. Metropolitan, 40s. prem. Midland, 7. North Central (second issue) 4 prem. North of England, 60s. Railway Carriage, 80s. In chemical companies shares, Lawes' are lower at 7⅞ to 8. Langdale's unaltered at 85s. to 87s. 6d. Newcastle, at 20s. to 22s. 6d.

ERRISBEG MINING COMPANY (Limited).—A powerful water-wheel has been erected and set to work at this mine in County Galway. It is capable of draining the mine to a considerable depth, and is now keeping the water with four strokes (short ones) a minute, and can be lengthened. The shaft is only 44 ft. in depth, and is being sunk in the lode, which is over 20 ft. wide, and proved to be orey for about 12 ft. in width. The portion carried in sump shaft is only 6 ft. wide by 12 ft. long, and at this depth, and from a shallow adit driven south a few fathoms, over 200 tons of rough ore has been broken. The company is now in treaty for the purpose of erecting a crusher, which can be worked by the same water-wheel, to render the ore marketable. The bottom of the shaft is looking better, and turning out more ore now than at any previous time. As far as human calculations go the total expenditure requisite to bring the mine into a paying state will not exceed 3000*l.*, so it is certain to pay shareholders well. It is one of the few good mines that will pay great profits notwithstanding the low price of copper. Altogether no young mine in the kingdom has such excellent prospects. The shares are 2*l.* each, fully-paid up.

IRON ORE LANDS IN THE UNITED STATES.—Owing to the satisfactory and hopeful prospects of improvement in trade in America, a company is being formed to purchase a first-class freehold iron ore property in the middle States, conveniently situated for access by rail or sea. It contains five large veins of iron ore and veins of manganese. The property extends to 17,130 acres, having large deposits of hematite iron ore. The quantity near the surface is estimated at 240,000 tons, and this could be put into wagons at a total cost of 2s. per ton. A cheap supply of superior coke can be had at hand, and water power is abundant. There is likewise an ample supply of timber for charcoal and other purposes, as well as limestone for flux. The whole will be conveyed to the company on very advantageous terms.

PRINCE PATRICK LEAD MINING COMPANY (Limited).—This company lately declared a dividend of 10 per cent. on the preference shares, and there is every reason to expect a dividend to be paid to the ordinary shareholders in August next, even if lead does not improve in price. The discovery made in October last continues to improve, and at present, taking the width of the lode at 5 fathoms, it is worth fully 30 tons per fathom for the entire width of the lode. None of the reserves of ore have been exhausted; they have simply driven the levels and cross cut the lode. These reserves left in the ground gone through are valued at 100,000*l.* The working expenses are being kept down as much as possible, and the ore when ready for market barely costs 2*l.* per ton, including all expenses. The sales are now 50 tons per month, and could easily be doubled if the price of lead makes it advisable to do so. The company will then again be able to pay dividends of 25 per cent.

VAL DE TRAVERS ASPHALTE PAVING COMPANY (Limited).—This company's annual report shows a balance, including the amount brought forward, of 5502*l.* at credit of profit and loss account: 1000*l.* is to be placed to a reserve to gradually extinguish the concession purchase account; 600*l.* has been carried to the reserve for maintenance contracts, which is now 3000*l.*; and, after paying all expenses, a dividend of 8s. per share is recommended, or 8 cent. payable April 22. The gross profits for the year are less than in 1877, but equal to 1876. An extension of the original concession has been obtained, making 28 years from the present time, and the obligation to divide profits has been cancelled.

MONKLAND IRON AND COAL COMPANY (Limited).—At the annual meeting on Tuesday the Chairman said they had not sustained any financial difficulty during the past year, and their loss had been surprisingly small. They had no great difficulty in having the debentures removed as they fell due, and they are prepared to satisfy anyone at all competent to judge of figures that the debentures are absolutely safe under present conditions. No company of the same dimensions was managed with so little expense. The managing director, referring to the two pits recently opened at the end of the Great Western-road, said as regards the one for gas coal they could not definitely say to what extent it could be worked, as it had been worked previously. There appears to be a considerable quantity yet, and they expected, if not this year, at least the next, to have a pretty large output. The coal ran about 2 ft. thick, had a fair appearance, and would command a second-class price. The other pit was for ironstone, being a leasehold on the estate of Cloverhill, where they had three pits working, and all doing very well. In two of them they had blackband ironstone 14 in. thick, and clay about the same depth. Over the whole field they estimated they had 300 acres, which should materially assist the company in future years. Their original fields were in every respect well opened out, and had coal and ironstone sufficient to last for the next 10 years, and all of a character equal to any other ironworks in the district. Generally the works were in a state that would compare favourably with any ironworks in the trade. A coal and iron master present stated that in the minds of many men it began to appear that trade had come to the worst point. As a party who bought iron he might say that during the last month there had been more iron passed through his firm's hands than for perhaps three to four months previous, and it was hoped this improved state of matters would continue in months to come.

MUNTZ'S METAL COMPANY (Limited).—The report for the meeting on March 25 states the profit on the year's operations was 15,667*l.*; the sum of 14,786*l.* was brought forward. The dividend paid in June last absorbed 8938*l.*, and a similar dividend is now declared payable April 1, making 10 per cent. for the whole year. After writing off 827*l.* from land and buildings, the sum of 11,749*l.* is carried forward.

CLYDE COAL COMPANY (Limited).—Another report has been issued by the committee of investigation. They recommend that, instead of the proposed issue of 10 per cent. preference stock, a sum of 15,000*l.* be raised on debentures, bearing 6 per cent. interest, and

having a currency of five years, but with an option to the company to redeem them at an earlier date on payment of 105*l.* per 100*l.* redeemed. In the company's collieries, at Hamilton, coals have been found of excellent quality, and the machinery and fittings are capable of working a large quantity of coal. At a moderate profit, in ordinary times of trade, it should earn very considerable profits. The committee, therefore, report that in their opinion the loans they advise would be safe investments. With the sum proposed, and other arrangements which are in progress, the undertaking can be satisfactorily carried on, and the shareholders be in a position to benefit as soon as a revival in trade takes place.

CHINA CLAY COMPANY.—A small company is being formed to acquire and carry on a splendid china-clay property. It is situated near St. Austell, the centre of this trade, and also in the immediate neighbourhood of some of the best properties. It is exceptionally well placed for economical working, being developed by water-power, and having facilities for washing away all refuse to the sea. The clay is unsurpassed for quality. As the royalty is at a very low rate, and company has advantages for cheap production unequalled at any other works in the county, it follows they will always be able to make good profits so long as other companies can continue even to carry on business. The amount of capital required will be very moderate.

J. GRANT MACLEAN, Stock and Share Broker.

Post Office Buildings, Stirling, March 20.

LIME AND STONE QUARRYING IN FLINTSHIRE.

For nearly 30 years the works, until recently in the hands of the Holywell Lime Company, have been successfully carried on, and a new company—the Holywell Hydraulic Lime, White Stone, and Cement Quarries—has now been formed with a capital of 12,000*l.*, in shares of 5*l.* each, to take over the works, leases, goodwill, plant, and machinery, and develope the enterprise with increased energy. It is mentioned in the prospectus, which appears in another column of to-day's Journal, that the directors qualify themselves by taking and paying for shares, so that incoming subscribers have the satisfaction of knowing that those entrusted with the management of the concern have their own money at stake in the undertaking.

It appears that the business of the old company has been most extensive, including the supplying of Halkyn Mountain limestone; hydraulic lime, in lump and ground; white lime, for building or chemical purposes; white limestone, in lump; crushed, for alkali manufacture; limestone dust, and chippings for garden walks; blue macadam, cementstone, cement, &c. It is estimated that upwards of 200,000 tons of this celebrated limestone has during the last 20 years been supplied to the Mersey Docks and Harbour Board, while the great docks of Liverpool and Birkenhead have been almost entirely constructed and maintained with hydraulic lime. The latter substance has also been largely supplied to the Bridgewater Trustees, the Weaver Navigation Trust, Belfast Harbour Works, &c., was used exclusively by Messrs. Brassey and Co. in the construction of their works at Runcorn Bridge for the London and North-Western Railway Company, while it is in increasing demand for harbours, railways, sewerage, water, colliery, and other works throughout the kingdom.

With regard to the commercial prospects of the enterprise, it will be seen from the prospectus that a careful examination of the books and accounts of the old company shows that a sum of between 20,000*l.* and 30,000*l.* has been expended in opening and developing the properties. During a period of six years the average sales have been upwards of 35,000 tons per annum, and the average annual net profit 1110*l.* (exclusive of profit arising from Portland stone and Roman cement, and the probable carriage of back goods): this, upon a capital of 12,000*l.*, would produce a dividend of nearly 10 per cent., but it is estimated that under consistent management a dividend of 12 per cent. should be realised. It is confidently anticipated that a dividend may be paid at the expiration of six months from the date of incorporation.

THE D'ERESBY MOUNTAIN LEAD DISTRICT.

The attention of capitalists has for some time past been directed to the numerous and highly promising lodes of the D'Eresby Mountain lead district, and already a large amount of work has been done by the D'Eresby Mountain, D'Eresby Consols, and Aberllyn companies, the Mineral Corporation of Great Britain, and other concerns, and from the lodes laid open and discoveries made no doubt is entertained that with the generally improving prospects of the lead trade the shareholders in all of them will be amply satisfied by the enterprise in which they are interested taking a prominent position in the Dividend List. Another undertaking in the same district—the Glyn Llugwy Consolidated Lead Mining Company—is now seeking the favour of capitalists, and from the report which has been already received, although it has been but a week before the public, a decided success is anticipated. The company, as was stated in last week's *Mining Journal*, is incorporated with a capital of 40,000*l.*, in shares of 10*l.* each, 22,000*l.* of which will be available for working capital, so that there should be no difficulty in developing the property speedily and thoroughly. The mines are situated in the township of Gwydyr, which is upon a portion of the mountain mentioned, and is 110 acres in extent. The main features of the mine are that it can be worked for many years without any pumping machinery, and is adequately supplied with water at all seasons of the year to meet all dressing and crushing requirements. The turnpike road from Bettws-y-Coed passes through the property, giving every facility for bringing the produce to market at a nominal cost per ton. Four masterly lodes containing lead and blende have already been discovered running through the sett, upon which levels to the extent of about 1000 yards have been driven, and large quantities of lead ore have been sent to market from these drivings.

The necessary preparations are now being made for working the property energetically, and the prospectus, which will be found in another column of to-day's Journal, states that when the water-wheel and crushers now in course of erection are completed 40 tons of lead ore per month can be raised and dressed for market from present drivings, which at the low rate of 10*l.* per ton would yield a profit of 3*l.* per ton, after payment of royalties and all other costs. There is now on the surface a large quantity of lead and blende ore stuff ready for crushing, and as soon as the wheel is completed 40 or 50 tons may be sent to market. The blende, which is found in large quantities in connection with the lead, will be raised and dressed in conjunction with it, and at nominal cost. It is estimated that 40 tons of blende can be raised per month, at a profit of at least 2*l.* per ton. The profit on the mine would thus be 200*l.* per month, or 2400*l.* per annum, equivalent to a dividend of over 10*l.* per cent. on 22,000*l.*, assuming that the 1600 shares now offered to the public shall be subscribed for, and 5*l.* per share paid thereon.

During, however, the past few weeks, and since the last report by Mr. Eddy, the vendor has opened out a new piece of ground on an east and west lode hitherto undiscovered, which at his request has been inspected by Mr. J. J. Williams, who reports that three or four parallel courses of ore, of 1 to 3 in. wide, are found in the said lode, which will yield at present at least 1 ton per fathom. The driving per fathom is carried on at the rate of 5*l.* 10s., or 2*l.* 15s. per yard. It is daily expected that these veins of ore will turn out to be leaders to a large bunch on the western side. This lode remains entirely unexplored to the east, and from the junction of the main level with the said lode to the eastern boundary there is a fine prospect of making a discovery that will, from all indications, amply repay the company. This discovery greatly enhances the estimate of profits above referred to, and the yield of the mine, instead of being below the estimate, from indications may reasonably be expected to increase.

The reports of the mining engineers who have inspected the mines are of a highly encouraging character, and suggestions are made by them as to future workings, which will, it is confidently anticipated, render the property still more valuable. Mr. Robert Williams would particularly recommend that the driving of the levels be continued with vigour, as presenting an easy and inexpensive means of developing a piece of ground presenting, in his opinion, a most favourable opportunity to mining capitalists to embark in a most legitimate undertaking, with prospects and advantages seldom met with. Mr. Walter Eddy states that there have been several lodes proved in the ground, but most of the workings have been made on the main lode, which is from 2 to 3 ft. wide, and composed of spar, lead ore, blende, &c., and of a most promising nature for producing large bodies of ore. The mine can be opened out in depth below the present workings at comparatively small cost, as there is an abundant supply of water-power close by for pumping, winding, and dressing ores, and the lode and strata are not expensive to sink or drive in, and but lightly watered. He knows of no young mine that can be more cheaply developed and worked, or showing so much ore in sight, and with such encouraging prospects of successful results. And Mr. J. J. Williams reports that there are three levels driven into the property at different depths and along a rich lode, and should there be no deeper workings attempted the driving of these levels only would be sufficient to make the mine a paying concern for many years, as there are hundreds of yards of unexplored ground on the east and west and north and south lodes above the lower level. The property is held direct from the Baroness Willoughby d'Eresby on equitable terms, and it is confidently believed that with energy and judgment the undertaking will prove a great success.

THE ELECTRIC LIGHT AS A TABLE LAMP.

The Latest Improvements in Electric Illumination formed the subject of an interesting paper read before the Inventors' Institute by Mr. F. H. VARLEY, C.E., on Thursday evening, Mr. M. ZINGLER presiding. An important feature of the meeting was the exhibition of a pair of table lamps, whose source of light was electricity. The lamp, which is the invention of Mr. HIGGINS, is of the incandescent class, represented by the King, Reynier, Werdermann, and other lamps, the improvement consisting in floating the positive carbon pencil in a tube of mercury, the negative and enlarged pencil being so placed as to prevent the too rapid rise of the positive carbon. The lamps continued to burn with the utmost steadiness throughout the evening, and yielded a light of from 10 to 15 candles each, as nearly as could be judged by the eye, no photometric test having been made. The brilliancy was, of course, much greater when the opaline globes were removed. Each lamp was supplied from 30 litre Bunsen cells, so that the division of the current was unnecessary. In sketching the progress made in electric illumination, Mr. Varley lucidly explained the Foucault and Dubosq lamps, and also noticed the Hefner-Aterneck lamp, which he said was much used in Prussia. For general purposes preference was given to the Serrin regulator as being of much stronger construction and more easily kept under control. He stated that this was the regulator now used for illuminating the Strand. All these regulators, however, were so complicated that they required experienced persons to make them work properly, and if they get out of order a skilful workman is required to correct the defects. Now, in the lamp which they had before them the several requisites necessary for a constant and steady light were obtained in the simplest manner conceivable. In the stem of the lamp there is an iron tube surrounded by a small cistern. The tube and cistern are filled with mercury, and the cistern being made of the requisite size, the mercury floats the carbon in the most perfect manner, and the mercury serving as a contact, there is no necessity to use contact springs. The essentials of a lamp of this descriptions are good contact with the carbons, and light but regular feed of the carbon pencil; such was secured in this invention, which he regarded as the acme of simplicity. Mr. Varley apologised for not alluding to his own invention, but was prevented from doing so owing to the patent not having been completed.

In the discussion which followed the reading of the paper many important statements were made which are well calculated to restore the confidence of inventors in the practicability of making electric illumination a commercial success. Mr. Lane Fox and Mr. Cadett observed that, compared with the arc lamps, the brilliancy of the lamps on the table was very small, but Mr. Varley pointed out that this was their peculiar advantage. Hitherto they had been compelled to employ an enormous amount of light, whether it was required or not, but by this arrangement the light could be regulated at pleasure and the consumption of electricity, and consequently the expense, was in proportion to the light produced. Mr. F. W. Campin considered that to much importance could not be attached to the fact that whilst the production of the electric light as they had seen it applied to public illumination necessitated the employment of a steam-engine, with all the attendant expense of engineers, coals, and buildings, the light which they now saw was produced from a simple battery, which could be readily set up near any private mansion, and would require no attention during an entire evening. It was frankly admitted by all the speakers that so steady a continuous light had not before been produced by electricity, and it is beyond question that this was the only opinion that could justly be expressed, whilst with regard to the comparative economy of electricity more conclusive evidence could scarcely be desired than that of Mr. J. N. Douglass, C.E., of the Trinity House, who stated that for many years past they had used electricity at certain lighthouses, and that in many of those cases they found electric illumination to be very much cheaper than gas for producing a corresponding amount of light.

Considering the results shown at the meeting in question, and the opinions expressed by competent men that a lamp can be constructed in which the light of 10 or 15 candles can be constantly and regularly produced, that the incandescence principle is the best suited for the production of such an amount of illumination as is required for domestic purposes, that quantity currents can be produced more cheaply than intensity currents capable of yielding the same amount of light, that it is preferable to use only one lamp on a circuit owing to the cheapness with which the necessary currents of low tension can then be produced, and that in certain cases electric illumination is positively cheaper than gas illumination. There can be little doubt that some injustice may have been done to those interested in electric illumination by comparing the cost of the electric light with the cost of gas in cities where the gas is supplied at 3*s.* or 4*s.* per 1000 cubic feet, so that the value of electric illumination in localities where gas is either unobtainable or obtainable only at twice or thrice the price mentioned has been altogether ignored. The members of the Inventors' Institute may be congratulated upon Mr. Varley's paper having brought forward some important and interesting facts.

FOREIGN COMPETITION—FOREMEN ENGINEERS AND DRAUGHTSMEN.—At the twenty-sixth anniversary festival of this association, on Saturday (Mr. R. C. Napier, C.E., in the chair), about 300 sat down to dinner. After the usual loyal and patriotic toasts, the Success of the Foremen Engineers of London and the Engineering Employers in Town and Country were drunk. In responding to the latter toast, Mr. W. H. Bailey, of Salford, said he could not forget what Manchester engineers owed to London. Accuracy, precision, and fine finish in our machinery had been inherited from Maudsley and other old London engineers, for scarcely a well known name in Lancashire could be named without our being convinced of the fact. Hick of Bolton, Sir Joseph Whitworth, that grand old image-breaker Richard Roberts, and many others, had received their first apprenticement to sincerity and fidelity, which are the proper terms for accuracy, and which, above all, he claimed to be the most remarkable features of Manchester-made machines at the present day. So much, he continued, had been said about United States competition that a few words might be useful. In 1876 we exported from England of manufactured iron to the value of 19,000,000*l.* sterling. The American exports for the same period came to 1,000,000*l.* sterling. The exports of machinery, such as agricultural, mowing, sewing, and other machines to this country amounted to 7,600,000*l.*, while those from America amounted to 1,500,000*l.* Some time ago all the sewing machines used in Europe—indeed, in the whole world—were made in the United States; they sold at high prices, but during the past few years the trade in sewing machines of the United States manufacture had rapidly decreased in this country; it is as well known that for a long time the machine that was sold retail in New York at 8*l.* was sold retail in the shops of Liverpool at 6*l.*, both machines being made at one works in America. This lowering in price was the result of English competition. At last the competition became unbearable, and what did the chief sewing machine makers do? They acted like wise men, and built factories in Glasgow, in Coventry, in Manchester, and came here to employ Englishmen, for that was the only way they knew of to meet the tide of English competition.

SALE OF MINE SHARES.—Messrs. Hancock and Son, of St. Austell, held an auction on Friday, at Tabb's Hotel, Redruth, for the sale of several shares in Cornish and other mines, belonging to the late Capt. Hancock, of West Tolgus. Mr. Hancock commenced by reading the conditions of sale, which he remarked were rather more favourable than usual, in that there was no lot money, and that with the exception of five per cent. deposit, the purchase-money need not be paid till the end of the month. He then started 15 shares in Alamillos Mine, a mine, he said, well known by description, and which had been before the public for some time. Failing to get a bid, the auctioneer explained that the Alamillos was a lead mine, and dwelling upon the improving prospects of this metal, he told his hearers that they must not give their attention to tin alone, but they must also remember that there were other metals which would participate in the general advance in prices which at the present time seemed to be rapidly approaching. Still there was no bidding, and the Alamillos shares were withdrawn in favour of four shares in Wheal Jane. This gave Mr. Hancock the opportunity of making special reference to the recent rises in the tin standard. For some years there had been a perpetual up and down motion; first a rise, then a fall, then another rise, followed by another fall, and so on—a regular "pop and jerry." One day they had been told that there was bound soon to be an improvement; and on the next day that no improvement was possible, so that the smelter had been simply playing cuckoo throughout. The depression had been so great that it really looked as if the foreigner was going to supplant them altogether, but the change had come at last. There had been three rises in the standard in less than as many weeks: they knew that the Australian supply was falling off, and everybody was agreed that prices were bound to go up further. They were, in fact, on the eve of brighter and more prosperous times, and in view of this the shares in a good tin mine like Wheal Jane ought to go higher than the present quotations. Mr. Hancock asked for a bid for the shares, and Mr. J. Thomas started them in 15*s.* a share. In two or three bids they ran up to a guinea, when there was a pause, and the auctioneer, looking at Mr. Thomas, appealed to his "brother chip" not to let the shares go at such a ruinously low price. That gentleman advanced another shilling, and, there being no higher offer, Mr. Thomas secured the shares at 1*l.* 2*s.* per share. Eleven shares in Wheal Peevor were next offered, and the mine was introduced as a property of great promise and of great continuation. The shares were started at 8*l.*, and bidding came to a standstill at 9*l.* 10*s.* Here again Mr. Hancock appealed to "brother chip," but, receiving no encouragement from that quarter he knocked the shares (five) down to Mr. James Pryor at the price named. Another five went to Mr. Theophilus Michell, of St. Day, for 9*l.* 7*s.* 6*d.*, and the eleventh was purchased by Capt. Stephen Williams at 9*l.* 8*s.* Mr. John Thomas bought ten Mellanears for 3*l.* 16*s.* 3*d.* per share; ten more went to Mr. T. Woolcock, of Devoran—five for 2*l.* 15*s.* and five for 3*l.* 12*s.* 6*d.*; and Mr. Cornelius Bawden secured another five at 3*l.* 15*s.* One Cook's Kitchen sold for 2*l.* 6*s.*, one New Cook's for 16*s.*, five West Bassets for 4*l.* 15*s.* per share, and one Tincroft for 10*l.* 7*s.* None of the foreign mine shares were sold.—*Cornish Telegraph.*

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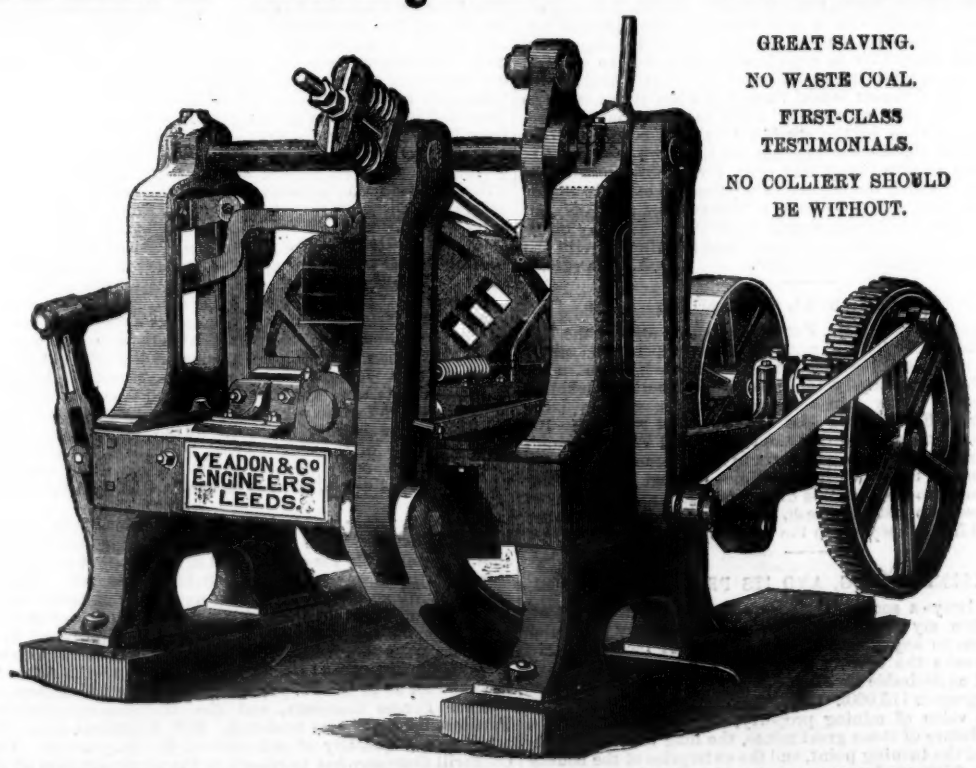

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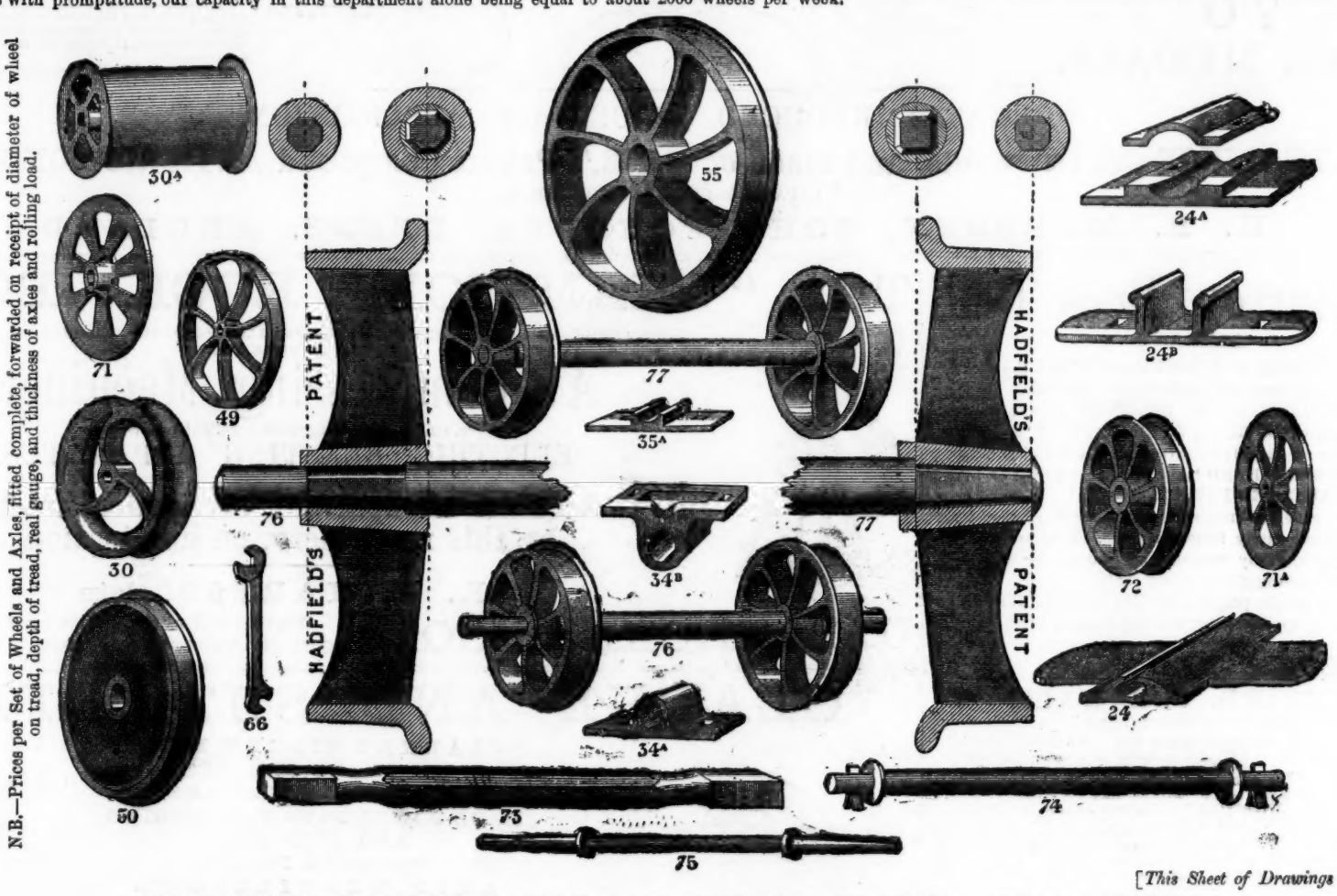

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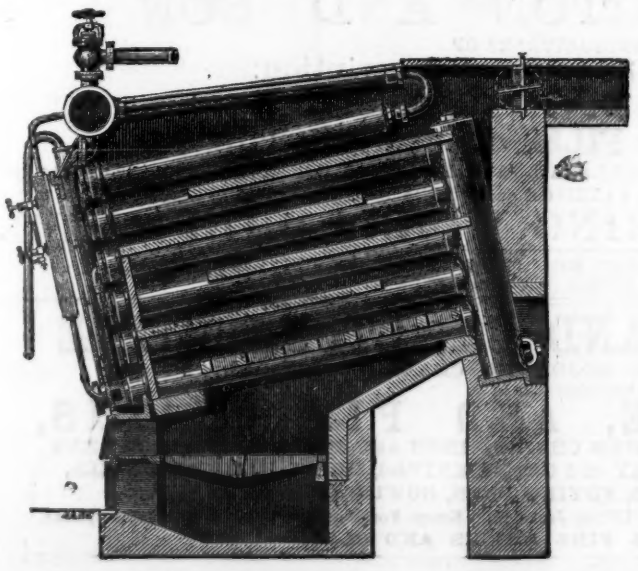

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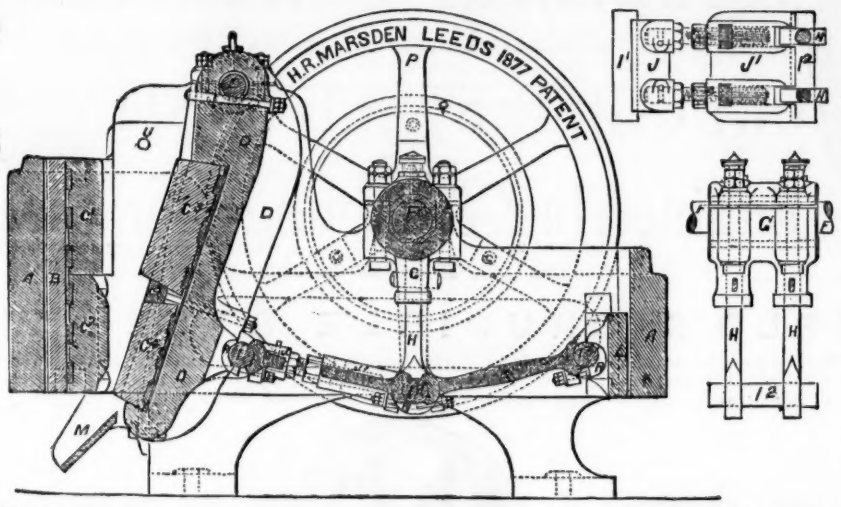

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I am, dear Sir, yours very truly,
WILLIAM MILLER.

AND THIS—

Wharthole Lime Works, Aspatria, Cumberland, July 11th, 1878.

H. R. MARSDEN, Esq., Soho Foundry, Leeds.

DEAR SIR,—We are in receipt of your letter of 4th inst. I may just state that the stone breaker above named has been under my personal superintendence since its erection, and I have no hesitation in saying that it is as good now as it was five years ago.

I am, dear Sir, yours faithfully,
FRANCIS GOULD.

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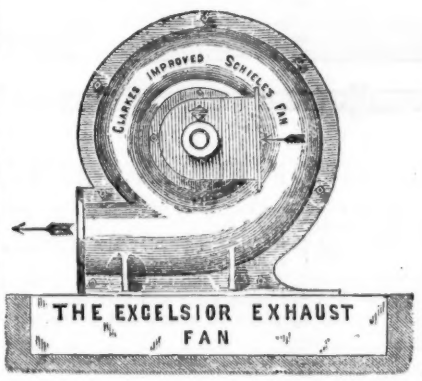

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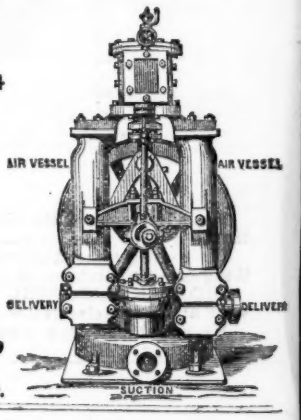

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